January 1997

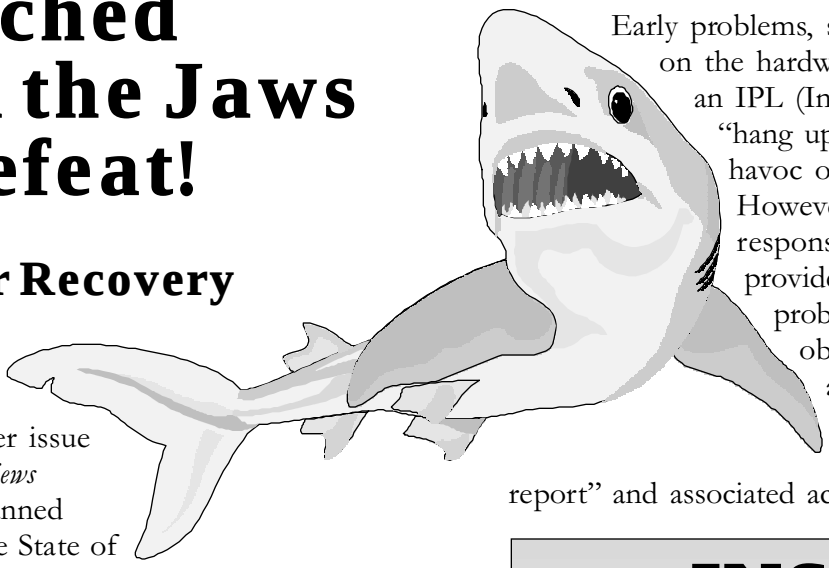
Volume 14
Number 7

News & Views

Published by Information Services Division
A Newsletter Dedicated to Information Technology in the State of Montana

Success Snatched from the Jaws of Defeat!

Disaster Recovery



The November issue of *News & Views* reported a planned disaster for the State of Montana during the week of November 4 - 8, 1996. Disaster recovery planning efforts, and previous drill rehearsals, prepared the state for yet another successful test. Such testing provides a great opportunity to improve the recovery process.

The November disaster recovery rehearsal simulated the loss of the AS/400 environments for the Department of Corrections and the Department of Revenue. The loss of the Department of Administration's data center and telecommunications was not part of this testing process. The November drill was the fifth disaster recovery test conducted since 1992, and its core disaster recovery elements and objectives included the recovery of the operating system software, application systems, and supporting hardware/software infrastructure for state agency AS/400 platforms. Recovery was made at the Weyerhaeuser Recovery Center in Federal Way, Washington.

Early problems, such as the enter switch on the hardware console sticking and an IPL (Initial Program Load) "hang up," threatened to wreak havoc on the drill proceedings. However, back-up plans and responsive team members provided solutions for each problem that arose, so all objectives were met on or ahead of schedule.

A final "post drill report" and associated action plans have been

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developed to correct shortcomings identified during the drill. In addition, DOA/ISD staff will provide guidance to all state agencies in the development of agency disaster recovery and business continuity plans. The focus of these plans will be the recovery of agency infrastructure necessary to restore critical agency business functions. ISD's disaster recovery staff will also define the scope of recovery tests for the next three to five disaster recovery drills. This planning will help facilitate the timely testing of our ability to recover the State of Montana's information technology infrastructure.

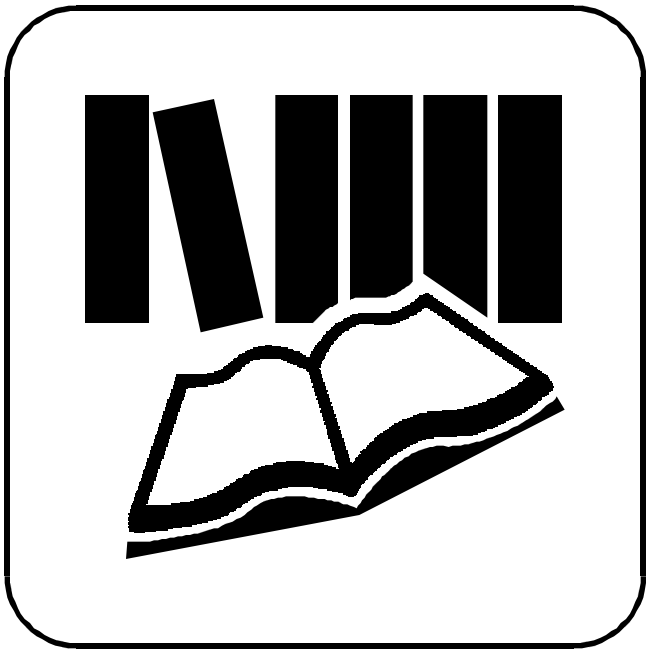
Our next disaster recovery drill is tentatively scheduled for May 12 - 16, 1997. Each agency is encouraged to contact ISD's disaster recovery staff to: 1) discuss the agency's recovery needs and plans and 2) share the names and telephone numbers of the agency's in-house contacts for disaster recovery. For more information, please contact these Computing Policy & Development Section staff: Leslie Cummings at 444-2469, ZIP!, or E-Mail at lcummings@mt.gov; or Brett Boutin at 444-0515, ZIP!, or E-Mail at bboutin@mt.gov.

Enterprise Wide News

State Library Automation — Access in the Information Age

With the help of Governor Marc Racicot, the Montana State Library (MSL) has just debuted its new Horizon library-automation system.

Horizon, by Ameritech, is a truly integrated client/server library-automation application that will streamline various aspects of MSL's day-to-day library operations. State of Montana employees and other MSL customers will experience the library's new look and feel in several ways. First, each customer's library card will have a unique bar-code identification. Also, MSL customers may check the Online Public Access Catalog stations in the library's Reference



area. They may even logon from a LAN station, or from their own desktop computer if the Horizon 4.1 Windows software is installed on their agency's LAN. Jim Senkler at MSL is responsible for making sure this software is available to state agencies via the ISD Value-Added Server (see the end of this article for contact information).

Horizon will also streamline the journal check-in process, materials purchasing, invoicing, and tracking. And with this system, only a few keystrokes are required to import existing records into the online catalog. By facilitating the efficient processing of State documents, the system will make documents available to customers sooner.

Calendar of Events

At press time there were no scheduled meetings for January due to the Legislative session. For further information contact Amanda Christen at 444-2700.

Just What Does Library Automation Mean?

Library automation may be defined as the use of computer resources to provide access to information and to streamline many of the routine tasks in the delivery of those information resources. When considering library automation, the organization's goals and mission are always a huge part of the overall picture. It is no different for the Montana State Library. The concept of library automation requires the library to reconsider questions like these: Just what is our business? Who are our customers? What do our customers expect from this library? What is this library's future, as an organization and as a public service providing library materials and information services to our community of users? How can we harness the talents of our employees who are constantly being asked to do more and give more while staffing levels remain static? What mechanisms can we use to empower staff and patrons alike?

MSL's motivations for automating are directly tied to this library's overall service philosophy and these issues: access, resource sharing, customer convenience, staffing levels, staff work flows, resources management, and the changing roles for libraries in our networked global economy where the library is no longer the storehouse of information, but the gateway to all kinds of information resources.

Access, Resource Sharing, and Customer Convenience: Library customers expect to obtain their needed information resources "just-in-time" and not only when the library is open. They also expect to locate the needed resources whether they access the library via the front door, the telephone, or their home or office desktop computer. Librarians and library customers from other libraries around the state want to independently search the collection/online catalog at MSL to access unique resources not otherwise available in their local communities.

Staffing Levels, Staff Work Flows, and Resources Management: Library automation assists staff in streamlining tasks, organizing their work flows, and working smarter. These are critical to meet the demands of doing more with less staff. Integrated library automation systems help by streamlining many of the repetitive tasks involved in day-to-day operations, including: collection management, inventory control, acquisitions (materials purchasing), cataloging, reference services, use statistics, and circulation of materials. In the automated environment, these operations are much more well-defined. MSL staff are making the shift from the more traditional means of conducting daily business, to the 21st century information age. Change brings with it opportunities and challenges, and for awhile at least, creative "techno stress" will be the catalyst that continues to motivate us.

Changing Roles for Libraries in Our Networked Global Economy: Montana State Library is committed to providing maximum access to all kinds of information resources. Online Public Access Catalog workstations within the library, and links to the resources physically housed within MSL, will soon be accessible via the World Wide Web and other wide area networks. This will allow libraries across the state and around the world to share our unique resources. These same online catalog stations will provide MSL patrons and staff access to information resources worldwide.

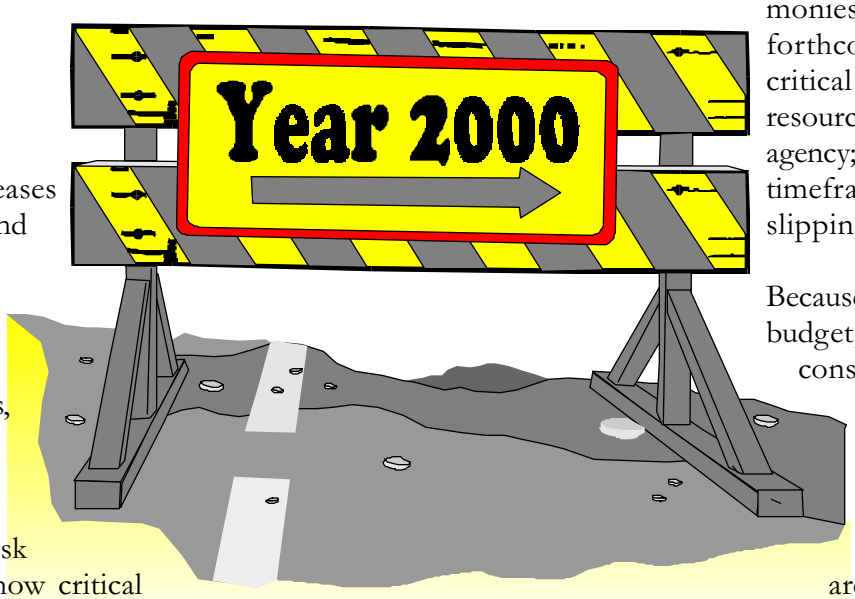
If you need assistance obtaining the Horizon 4.1 Windows software, or want help installing it, contact Jim Senkler of the Montana State Library at 444-0537, ZIP!, or E-Mail at jsenkler@mtgov.

Year 2000 — Assessment/ Impact Analysis

The Year 2000 article in December's *News and Views* addressed the first phases of a Year 2000 project, namely awareness and inventory. This article will cover the series of activities, often collectively called assessment and impact analysis, that should occur before finalizing compliance

solutions and strategies. The end result of these activities is a detailed understanding of the project's scope, thereby enabling the development of a project workplan that includes timelines and resource requirements.

Risk assessment identifies the risks associated with compliance failure. It begins by identifying the point in time when each application will no longer correctly function due to a date-related failure. Do not assume that problems will not occur before January 1, 2000. An application will potentially fail at the point that it uses a date that spans the year 2000. Applications with potential pre-2000 fail dates include those involving: long-range planning; multi-year leases or service contracts; and financial systems with future renewal/ expiration dates, amortization/ depreciation schedules, maturities, or annuities.



Another element of risk assessment identifies how critical the application is to the organization's viability. One methodology uses the following designations: fatal, critical, and necessary. The fatal designation refers to those applications that, if they fail, would cause the organization to go out of business. In the public sector, a more appropriate definition of fatal might be those applications that, if they fail, could adversely affect public health and safety. An example might be the Wants and Warrants application within the Department of Justice. Critical applications might be those that generate vital revenues or result in the payment of vital obligations.

Prioritization uses the risk assessment findings to comparatively rank applications for subsequent compliance work. Agency management and end-users should be included in this process to help identify the relative importance of individual applications and any future plans related to them. Applications that affect the customer will generally be prioritized over applications that support the agency's ongoing operation. In addition to relative fail dates and the mission criticality of applications, the length of time required for compliance work should be factored into the prioritization process.

Contingency planning is an essential part of Year 2000 risk management. The unimpeachable deadline associated with the Year 2000 project may force some hard choices as project work progresses. What is the fall-back plan if requested monies aren't forthcoming; if critical personnel resources leave the agency; or if project timeframes start slipping?

Because of time, budget, and resource constraints as their Year 2000 projects progress, some organizations are finding that modifications are required to initial compliance strategies (such as date expansion throughout their applications) and/or project plans. Organizations are being forced into a greater utilization of program logic workarounds (or windowing). Some have even come to the realize that they don't have time to fix everything and that some systems will fail!

Partitioning is used to identify discrete, manageable, work units within the context of the total compliance effort. This has particular relevance for some of the larger systems that will be repaired. It will likely be neither desirable nor feasible to pull the entire system out of production for a period of weeks while code repair and testing occur. Rather, it may be necessary to divide these systems into a series of smaller work units consisting of a logical group of programs, files, JCL, or interfaces that will be

made compliant as a unit. This activity will likely also involve bridging. A bridge refers to program code that is added to a Year 2000 compliant module to allow it to successfully interact with not-yet-compliant modules.

Parsing is the process of gaining a detailed understanding of the flow of date-based information through each program and application. What intermediate fields are used to store date information? What types of operations (sorts, comparisons, calculations, etc.) are performed on the date data? What is the impact of code modifications both within and between programs, applications, and systems? While the use of automated tools can reduce, by as much as 50%, the time required for this activity, a follow-up manual effort is necessary to reconcile the results of any tool-based actions. This task is pivotal to the success of subsequent activities because it provides the detail needed to make informed decisions about compliance and testing strategies.

Refine the project workplan. The knowledge gained from the preceding steps provides the basis for refining overall project timelines, and cost and resource requirements.

Next month's article will explore the considerations in choosing compliance solutions and strategies and will address the relative merits of date expansion versus code workarounds as a repair strategy.

NOTE: While these articles seem to portray the Year 2000 project as a linear progression of tasks, it is imperative that concurrent activity in the testing area occurs in the project's early stages. What is the viability of current test environments for the entire portfolio of applications? Does the test environment test all occurrences and uses of date-based data within each application? A comprehensive testing regimen will be the ultimate determinant of the success of Year 2000 compliance efforts.

For more information contact Dan Sidor, Year 2000 Coordinator, of ISD's Policy, Development & Customer Relations Bureau at 444-2029, ZIP! or E-Mail at dsidor@mt.gov.

ES/9021-832 Performance

The IBM 832 mainframe had a CPU utilization of 61.1% for its first month of operation. During the prime shift (8 am to 5 pm), the number of CICS and IDMS transactions rose slightly, while the number of TSO sessions remained fairly constant. We did see a 14% increase in the number of batch jobs being processed. As we move into our busiest time of the year, we will keep you updated on the 832's performance.

For more information contact Robin Anlian of Computing Operations Bureau at 444-2898, ZIP! or E-Mail at ranlian@mt.gov.

Credit Policy for Batch Jobs

Have you ever incurred additional expense because you had to rerun or reprint a job, or rebuild a file? Was this expense caused by problems that originated within ISD — problems over which you had no control? It is ISD's policy to issue credits when appropriate. Included among the problems that may justify a credit are: a system hardware failure, a software failure, a read/write error, human error, a power failure, an air conditioning error, a paper jam in the printer, and scheduling conflicts.

For example, if the system goes down while jobs are running, the cost of those aborted jobs will be credited. Whether the system outage was caused by a software problem, hardware problem, power outage, or a chiller failure is immaterial because, obviously, the outage was not the user's fault. Likewise, if a job abends due to a read/write error on tape or disk, the cost of the aborted job may

be credited. One exception to this is if the error occurs on an external tape. Obviously, ISD cannot be responsible for the quality of a tape outside of its control. As noted above, if the rerun of a job is the direct result of an error by an ISD employee, that too is justification for credit. So, for example, if an operator should mistakenly cancel your job, or if the ISD I/O Controller runs a job out of sequence, a credit would be appropriate. There are numerous other human errors that may qualify for credit. Keep in mind, however, that it is the responsibility of the user to follow ISD's operational policies regarding scheduling lengthy jobs, using correct job classes, using correct sysout classes, etc.

In those cases where a partial or entire report must be reprinted, we will, of course, issue a credit for the job processing and print costs. But we will also reimburse the agency for the costs of any forms destroyed if those forms were the property of the agency. If a database must be restored because a problem occurred with a job that updates that database, the agency will be credited for the restore job as well as the original job. These are just a sampling of the situations in which the user may be entitled to a credit.

If a problem that may justify a credit occurs with your job during the off shifts, you will generally be notified by the system operator (usually by a note on the job output) IF the operator is aware of the problem. There are some problems of which the operator is not aware. It is up to the user to contact ISD to request a credit. Even in those cases where we know a problem occurred, we need information from the user to issue the credit. If you experience a problem with a job for which you think you may be entitled to a partial or full credit, contact Dave Smith of ISD's Computing Operations Bureau at 444-2857, ZIP!, or E-Mail at dsmith@mt.gov.

Job Scheduler "Shout" to ZIP!Mail

The process of notifying a Job Scheduler user when a job does not run successfully is know as "Shouting." Up until now, the only type of "Shout" available in Job Scheduler was via TSO. These messages are only displayed briefly during a TSO session, and cannot be saved. Consequently, it is easy to completely miss an important message if you're not paying close attention. To correct this, we have added the ability of Shout to ZIP!Mail and ZIP!Office. These messages will be kept in your "In-tray" until you purposely delete them.

The new function is very easy to use. Via SPF function U.J, use choice 2 (Schedule Definition) to modify the Shout Destination (the "TO" field within the Scheduler Table for your job) from:

TSO-xxxxxxxx
to:
U-EMC2-xxxxxxxx

where the x's are the TSO Logon user ID. Or you can have both Shout types by leaving the existing TSO Shout as is and adding a second Shout to ZIP!Mail.

Shout messages are limited to 70 characters. However, try to design messages so that the most critical information is in the first 32 characters. This portion will be used for the description in ZIP!Mail — the part you see when you look at your In-tray. The entire 70 characters will appear as the contents of the message — what you'll see when you double click on the description. The 32-byte length of the description is a restriction of ZIP!Mail, and the 70-character length of the message is a restriction of Scheduler.

For questions or more information, contact Buzzy Buswell of ISD's Computing Operations Bureau at 444-2881, ZIP!, or E-Mail at bbuswell@mt.gov.

Mainframe Password Changes

The final phase of implementing password standards on the mainframe will take place during the last week of January. At that time, the password history function will be implemented which will require that four password cycles (changes) occur before a password may be reused. At this time, the specific implementation date is unknown because this change requires an IPL (Initial Program Load) of the mainframe MVS operating system and that will have to be coordinated with the Computing Operations Bureau.

If you have questions about this or any other Mainframe/ACF2 security issues, please contact Mick Plovanic of Security Methods and Media Management at 444-2571, ZIP!, or E-Mail at mplovanic@mt.gov.

December ITMG Meeting

The Information Technology Managers Group met on December 4, 1996. The group was brought up-to-date in several areas:

- ISD and the ITMG representatives have begun work on the E-Mail Request for Proposal that will be issued in early January.

- Two policies ("Aggressive Use of Technology" and "Transmission Privacy") were distributed. These policies were previously approved by ITAC (Information Technology Advisory Council).

- Mary Bryson, Chair of the ITAC Coordination Task Force, discussed work the task force has done in formalizing ITMG's existence with the issuance of an Agency Order. ITMG was not asked for a formal vote, but agreed that the task force could proceed in this area.

- Tony Herbert, ISD Administrator, gave an overview of possible technical issues facing the 1997 legislature. They include:

  - A $53 million bond program for technological infrastructure

  - Changes in the Bulletin Board System (BBS) legislation to make the law read "electronic access" instead of specifically mentioning BBSs

  - Enhanced 9-1-1 activities

  - Public Safety Communications issues

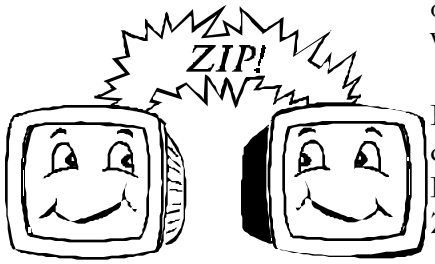
  - Year 2000 issues

  - The group heard a report on the November 1996 disaster recovery drill.

A demonstration of the new state BBS followed the business meeting. Complete minutes of the meeting are available on the state BBS and the ISD Value Added Server at doa_vas_001\sys:guest\itmginfo\minute96 or by contacting Amanda Christen of ISD at 444-2700, ZIP!, or E-Mail at achristen@mt.gov.

Tech Talk

ZIP!Office Tip for E-Mail Administrators



As your agency's E-Mail administrator, you can get bombarded with calls regarding problems with Internet E-Mail. If you get reports of Internet E-Mail not working you need to determine if it is a problem isolated to users on your server or if it is a Statewide concern. We can determine a "location only" problem according to the error message that has been received back from the SMTP gateway. One of those errors is:

****

Unable to deliver the following mail:

From: Skuletich, Sue

Sent at: 12-05-96 10:47a

Subject: RE: E-Mail Evaluation

Error detected at node DSVHOST

Destination	Error
-SMF71-.ZIP	Invalid user ID and address

****

The error message can mean one of two things: either the file needed for Internet E-Mail routing has been damaged or accidentally deleted; or the "Patch" disk file was never copied over in the ZIP!Office upgrade process. This file (inetren.btr) is located on the Valued Added Server (VAS): doa_vas_001\sys:guest\!DIRECT. This is the same subdirectory that contains the ZIP! Address Book file (apudir2.btr). The NetWare rights assigned to users in this subdirectory are: [RWCEF]. Therefore, when upgrading to the new code we recommend putting a NetWare "Delete Inhibit" flag on this particular file.

If the file is corrupt, copy a new one (obtained from End User Systems Support) over the old one, and have your users restart Windows to have it take effect.

If you have Internet E-Mail or ZIP! questions, please contact Sue Skuletich of End User Systems Support at 444-1392, ZIP! or E-Mail at sskuletich@mt.gov.

WordPerfect for Windows Tips

Hard Space and Hard Hyphen

Do you ever type dates, Social Security numbers, telephone numbers, or other text that you don't want splitting over a line break? You can easily insert hard spaces and hard hyphens in WordPerfect for Windows. To insert a hard space, press (Ctrl+Space Bar). Similarly, you can press (Ctrl+Hyphen) to insert a hard hyphen. These codes keep text together by preventing the text on either side of the code from splitting at the end of a line.

> We will be holding a special seminar on 1-15-96. We will be discussing the Social Security number format for our latest project 999-99-9999. Your staff may contact Steven at 999-9999 for more information.

Figure 1: Sample of text with a date, Social Security number, and phone number without hard hyphens.

We will be holding a special seminar on 1-15-96. We will be discussing the Social Security number format for our latest project 999-99-9999. Your staff may contact Steven at 999-9999 for more information.

Figure 2: The same text with hard hyphens inserted.

Note: If you have the <WPDOS Compatible> keyboard selected (instead of the default WPWin keyboard), you can press the DOS keystrokes of (Home), (Space Bar) to insert a hard space and (Home), (Hyphen) to insert a hard hyphen.

Dot Leaders With Indent

When you create lists, have you ever wanted to set dot leader tabs so that dot leaders appear between the list items? What do you do if you have a lot of text in the last column? You'll most likely want it indented, so it doesn't wrap back to the left margin (see Figure 3).

Project Schedule

January 6, 1996.....	Meeting 1....	This will be our first meeting to discuss the new project we will be undertaking.
January 13, 1996.....	Meeting 2....	Every team member will be giving an update on their project status.
February 27, 1996...	Meeting 3....	We will tie up all loose ends at this meeting and finish the project.

Figure 3: The column on the far right uses dot leaders with the Indent feature so the text doesn't wrap back to the left margin.

When you insert an indent code, the dot leaders no longer appear. How can you have dot leaders work with an indent code? You can use dot leaders with the Indent feature by inserting a couple of extra codes. First, set up your dot leader tabs as you normally would, using either the Ruler or the Tab Set dialog box (Format/ Layout, Line, Tab Set). Once the dot leader tabs have been set, press (Tab) to move to that tab stop (the dot leaders are inserted in your document). Then press Margin Release (Shift+Tab), Indent (F7). Any text you now type will wrap to this tab stop, as it normally does with Indent.

These tips were obtained from the March and April issues of *WordPerfect for WINDOWS* magazine. If you have any questions, please contact Irvin Vavruska of End User Systems Support at 444-6870, ZIP!, or E-Mail at ivavruska@mt.gov.

Win95 Tips and Procedures

Getting ZIP!Office to Print Under Win95

You would think that printing would be a simple process no matter which operating system you are using. However under Windows 95, getting some older and DOS-based programs to print can be somewhat of a hassle. Windows 95 prints directly to the network queue. This is a very progressive and positive step since you are no longer limited to nine network printers. And if you are running all "queue aware" Windows programs, all of your applications will print properly. Unfortunately, ZIP!Office is one of those pseudo-Windows programs that is non-queue aware. It must still print to a captured LPT port.

There are basically three different methods of printing to an LPT in Windows 95.

1) Setting up the Printer to an LPT Port:
Go to Start, Settings, Printers. Do a right click on the printer you wish to set to an LPT and choose Properties. Go to the Details tab and find the section Print to the Following Port. Click on the down arrow and go down through the list until you find LPTX:(Server name\Queue name). If you do not have any LPT-based printers in the selection window, choose Capture Printer Port

and then select any LPT from 1 through 3 (anything greater than LPT3 does not work in Windows 95). Then type in the correct, complete name for the printer. Make sure that the reconnect at Login box is checked. For example: the path to the Color Laser on the Value Added Server would be \\doa_vas_001\doa_vas_clr. Once you have captured a printer port, go back to the beginning of this section and follow the instructions.

2) Creating a Reinitializing Batch File:
This procedure seems to be quite reliable and will serve the needs of most of your users. The method creates a batchfile to reinitialize the capture every time Windows 95 is restarted. This is achieved by creating a capture statement and placing it in Startup. An example of this batch file is: Capture L=1 q=doa_vas_001\doa_vas_clr /nff /nb. These commands mean LPT1 Queue Name /No FormFeed /No Banner. This is saved as Zprint.bat and then initiated. First, do a right click on the DOS window, which then opens. Click on shutdown on the exit box; this will create a ZPRINT.pif. This pif file is what is then copied into the user's Startup. Once this Batch file is created and the pif is inserted into Startup, the preceding instructions on Setting up the Printer to an LPT Port need to be followed.

Methods 1) and 2) are quite effective for users who connect to more than one printer.

3) For users who connect to only one printer for all of their printing needs:
Follow the steps outlined in Setting up the Printer to an LPT Port. After you have clicked on the down arrow below the Print to the Following Port and have chosen the correct LPT captured printer, go to delete port and delete the queue definition for the printer that you are capturing. (For example: \\doa_vas_001\doa_vas_clr). With this method, you do not need a reinitializing batch file or a reconnect at login.

These fixes can be applied to other LPT printing-based applications, dBASE, Architect, and other DOS and pseudo-Windows-based programs.

If you have any questions regarding this process, please contact Brian Divine of Desktop LAN Admin Support at 444-2791, ZIP!, or E-Mail at bdivine@mt.gov.

Tech Talk

ImgView — Another Windows 95 Freebie

ImgView enhances the Windows 95 Quick View facility by adding viewers for seven additional graphics formats: GIF, JPEG, Kodak PhotoCD, PCX, PNG, TARGA, and TIFF. The ImgView program consists of two executable files named Install.exe and Uninstal.exe, plus several dynamic link libraries, or DLLs. ImgView.dll is the main DLL; it houses the code for ImgView itself. The other DLLs are part of LEADTools Win32 Pro, which provides the imaging capability and must not be distributed separately from ImgView.dll. The following is the readme file for ImgView.

To install ImgView, first create a directory on

your hard disk to hold the ImgView executables. Next, expand the zip file that contains the ImgView files in the ImgView directory. Then run Install.exe and answer the prompts. You'll be asked to enter the path to ImgView.dll, and then you'll be presented with a list of file formats. Check the formats you'd like ImgView to support and click OK to complete the installation process. A check box that is initially unchecked means Install determined that a viewer for that format may already be installed. It's your choice whether to leave the existing viewer intact or allow ImgView to provide a viewer for that file format. If you choose the latter, it's a good idea to uninstall the existing viewer first. If you don't install the complete set of ImgView viewers the first time around, you can add more later by running Setup again. You can also run Install again if you want to remove support for certain formats.

Once ImgView is installed, when you right click any file with the extension .GIF, .JPG, .PCD, .PCX, .PNG, .TGA, or .TIF, you'll see the Quick View command on its context menu. When you select Quick View, the file's image will be displayed. ImgView's Options menu contains four commands: Copy to Clipboard, Status Bar, About This Viewer, and Exit. Status Bar toggles the status bar at the bottom of the window on or off; About This Viewer displays ImgView's About box; and Exit closes the Quick View window. The Copy to Clipboard command copies the image to the Windows clipboard. By copying to the clipboard and then pasting the image in the Windows 95 Paint applet, you can translate graphics files to BMP format. You can then use Paint's Print function to print the image.

These tips were obtained from: ImgView (Version 1.00) Copyright (c) 1996 Ziff Davis Publishing Company by Jeff Prosise; first published December 1996.

If you would like a copy of ImgView, the files are available on the ISD Value Added Server (VAS) at doa_vas_001\sys:guest\windows\winaddon\95addons\Imgview. If you don't have access to the VAS, or have questions about it, contact Denny Knapp of End User Systems Support at 444-2072, ZIP!, or E-Mail at dknapp@mt.gov.

Formatting Does Not Transfer Between 123W 5.0 and Approach

FYI:
Using 123 Release 5.0 for Windows to create an Approach 3.0 object, is accomplished by selecting tools, database, and one of the Approach integration options (Forms, Reports, Dynamic Crosstab, Mailing Labels). However, if the formatting styles are then changed either in the 123W 5.0 worksheet or in Approach 3.0, these style changes do not appear in the other application.

For Example:
If the end-user creates mailing labels from 123W data and changes the font in the 123W worksheet to BrushScript, the BrushScript font will not appear in Approach. Also, if the end-user changes the formatting of a number to currency in Approach, for example, this formatting will not appear in 123W.

Keep in mind that when using 123W 5.0 and Approach Integration, formats and styles will not carry forward to the other product. This limitation applies to style changes made through 123W as well as style changes made through Approach 3.0.

Some examples of formats and styles which will not be transferred: borders, patterns, frames, fonts, bold, italic, number formats, alignments.

For more information on Lotus and Approach Integration techniques contact Pete Mattison of ISD/EUS at 444-9505, ZIP!, or E-Mail at pmattison@mt.gov.

Training Calendar

This schedule has been assembled by the Helena College of Technology of the University of Montana. If you have any questions about enrollment, please call 444-6821. All classes will be held at the Helena College of Technology at 1115 N. Roberts. Please note that these costs are subject to change each July 1.

To enroll in a class, you must send or deadhead an enrollment application to the State Training Center, HCT, Helena, MT 59601. If you have questions about enrollment, please call 444-6821. Once you enroll in a class, the full fee will be charged UNLESS you cancel at least three business days before the first day of class. HCT is also willing to schedule specific classes by request from state agencies.

	DATES	COST	LENGTH
Database Classes			
Intro. To Oracle(New Version)	January 6,7	170.00	2
Prereq. Intro to Windows	February 18,19		
Intro. To SQL(New Version)	January 13,14	170.00	2
Prereq. Intro to Oracle (New Version)	February 24,25		
Oracle Developer 2000, Part I(New Version)	January 21,22,23	255.00	3
Prereq. Intro to SQL	March 3,4,5		
PL/SQL Programming(New Version)	January 27,28	170.00	2
Prereq. Oracle Developer 2000, Part I	March 17,18		
Oracle Developer 2000, Part II(New Version)	February 3,4,5	255.00	3
Prereq. PL/SQL Programming	March 24,25,26		
Designer 2000	March 31 - April 11 (1/2 days)	425.00*	5
		*Plus materials	
Lotus Approach	March 26	85.00	1
Prereq Intro to Windows			

Please Note the Changed Oracle Sequence Starting January 1997 — All classes are listed in order of the required prerequisites.

If you are missing a course(s) from the former sequence, we will make arrangements to fit you into the new sequence.

Introduction to Oracle 2 Days
Relational Database Theory
- Modeling
- Client/Server
- The Oracle Architecture

Introduction to SQL 2 Days
Oracle Developer 2000, Part I 3 Days
- Forms
- Reports
- Graphics

PL/SQL Programming 2 Days
- SQL Programming
- Functions
- Procedures

Oracle Developer 2000, Part II 3 Days
- Advanced Forms
- Advanced Reports

Oracle Designer 2000 5 Days

Data Network/Mainframe Classes

NONE

Microcomputer Classes

Introduction to Windows	January 8 February 6 March 6	85.00	1
Windows 95(2)	January 8 am&pm February 25 am March 21 am	42.50	1/2
Windows 95	March 5	85.00	1
ZIP!Office	January 9 am	Free	1/3
Prereq. Intro to Windows	January 15 am **NEW** February 19 pm March 7 am		
Intro. to Internet	January 15 am&pm	42.50	1/2
Prereq. Intro to Windows	February 13 am March 7 pm		
Internet	February 6,7	170.00	2
Prereq. Intro to Windows			
HTML	January 9,10 February 10,11 NEW February 20,21 March 19,20	170.00	2
WordPerfect 6.1 for Windows	January 13,14	170.00	2
Prereq. Intro to Windows	February 10,11		
WordPerfect 6.1 Conv. Windows	February 24	85.00	1
Prereq. Intro to Windows	March 18		
Desktop Publishing W/ WP 6.1	March 19,20	63.75	1 ½
Prereq. WP 6.1 for Windows			
Lotus for Windows	January 21,22	170.00	2
Prereq. Intro to Windows	February 18,19		
Lotus Conv. for Windows	February 12	85.00	1
Prereq. Intro to Windows	March 27		
Lotus Macros	February 26	42.50	1/2
Prereq Lotus Conv. to Windows			

Prerequisites may be met with consent of Instructor.

HELENA COLLEGE OF TECHNOLOGY
1115 North Roberts, Helena, MT 59601

SPRING SEMESTER 1997 Evening Courses

Course Number	Course Title	Credits	Days	Times	Room	Instructor
Accounting Technology						
AC110-A	Accounting I	4	MW	0500-0730PM	125A	Wood
AC120-A	Accounting II	4	MW	0500-0730PM	208	Clark-Snustad
AC230-C	SBAS (meets January 21-April 22)	2	T	0515-0815PM	125A	Wetterling
Computer Technology						
CT110-A	Intro To Micros - 1st	2	MW	0500-0730PM	125B	Anders
CT110-Q	Intro To Micros - 2nd	2	TR	0715-0930PM	125B	Staff
CT134-N	Data Base Mngt - 2nd	2	MW	0715-0930PM	207	Staff
CT137-C	Spreadsheets - 1st	2	TR	0500-0715PM	207	Divine
CT137-M	Spreadsheets - 2nd	2	MW	0500-0715PM	125B	Staff
CT139-M	Intro To DOS/WIN - 2nd	2	MW	0500-0715PM	207	Knapp
CT237-P	Intermed Spreadsheets-2nd	2	TR	0500-0715PM	207	Divine
CT245-C	Internet - 1st	2	TR	0500-0715PM	205A	Secker
CT248-P	Hypertext Markup Language - 2nd (meets March 18—April 17)	1	TR	0500-0715PM	205A	Secker
CT250-1	Desktop Publishing	4	MW	0500-0730PM	205A	Brockbank
WK213-A	WIN95 for Novices Workshop - 1st (meets January 15—February 10)	1	MW	0500-0715PM	207	Knapp
WK213-M	WIN95 Upgrade Workshop - 1st (meets February 12—March 5)	1	MW	0500-0730PM	207	Knapp
WK245-C	Internet Workshop - 1st (meets Jan. 14—Feb. 6)	1	TR	0500-0715PM	205A	Knapp
Office Technology						
OT110-D	Keyboarding I - 1st	1	TR	0715-0930PM	125B	Tilton
OT120-A	Word Processing - 1st	2	MW	0500-0730PM	205B	Schneider
OT120-Q	Word Processing - 2nd	2	TR	0715-0930PM	205A	Tilton
OT121-M	Advanced Word Processing - 2nd	2	MW	0500-0715PM	205B	Schneider

Courses designated 1ST meet from January 14 - March 7, and courses designated 2ND meet from March 17 - May 8.

Tuition and fees are charged on a total credit basis according to the following fee schedule: 1=$107.55; 2=$182.10; 3 = $256.65; 4 = $331.20; 5 = $405.75; 6 = $487.30; 7 = $561.85; 8 = $636.40; 9 = $710.95; 10 = $785.50; 11 =$860.05; 12 = $934.60. First-time applicants must pay a non-refundable application fee of $30.00. Classes with additional fees for handouts and supplies are Welding ($15.00) and IV Therapy ($20.00). Visa and MasterCard are welcome. Classes are offered on a first-come, first-served basis subject to sufficient enrollment with all payment refunded if class is not offered. If students drop from class, registration fee is non-refundable. Books and supplies are extra.

ISD Class Enrollment Application

COMPLETE THIS APPLICATION IN FULL **AND RETURN IT** AT LEAST ONE WEEK PRIOR **TO THE FIRST DAY OF CLASS**

COURSE DATA

Course Request: _____

Date Offered: _____

STUDENT DATA

Name: _____

Soc. Sec. Number (for P/P/P): _____

Agency & Division: _____

Mailing Address:

_____

_____

Phone: _____

How have you met the required prerequisites for this course? Explain, giving the class(s) taken, tutorial completed, and/or experience.

_____

_____

_____

BILLING INFORMATION/AUTHORIZATION MANDATORY

User ID: _ _ _ _ _ _ Agency#: _ _ _ _

Authorized Signature: _____

FULL CLASS FEE WILL BE BILLED TO THE REGISTRANT UNLESS CANCELLATION IS MADE THREE BUSINESS DAYS BEFORE THE START DATE OF THE CLASS.

DEADHEAD COMPLETED FORM TO:

COMPUTER TRAINING CENTER
HELENA COLLEGE OF TECHNOLOGY
OF THE UNIVERSITY OF MONTANA
PHONE 444-6800 FAX 444-6892

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(406) 444-2700

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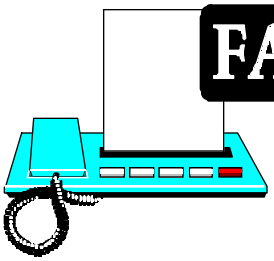

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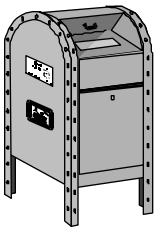

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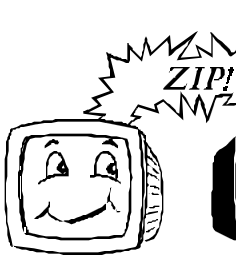

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Editor's Notes

Published By...
ISD *News & Views* is published monthly by the Information Services Division (ISD), Department of Administration, Room 229, Mitchell Building, Helena, MT 59620, (406) 444-2700, FAX (406) 444-2701.

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Distribution Notes...
1200 copies of this public document were printed at a cost of $360. Distribution costs are $18.25. 120 copies of this document were distributed electronically at no cost.

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